

## **Neonatal Stage (0–2 Weeks)**

### **I. Overview of the Neonatal Period**

- The full neonatal period lasts about 4 weeks
- Commonly divided into two-week intervals due to rapid developmental changes
- Immediate post-birth evaluation is critical

### **II. Initial Health Checks at Birth**

- Check for congenital defects:
- Cleft palate
- Signs of prematurity (e.g., lack of hair on tops of feet)
- Monitor daily weight gain
- Poor weight gain may indicate:
  - Inadequate milk production
  - Illness or infection
- Low birth weight increases risk of:
  - Sepsis
  - Hypoglycemia
  - Higher mortality

### **III. Umbilical Cord Care**

- Umbilicus should:
- Dry and fall off within ~3 days
- Inspect daily for:
  - Redness
  - Swelling
  - Discharge
- Umbilical infections are a common source of sepsis
- Veterinarian exams include:
  - Umbilicus assessment
  - Check for umbilical or inguinal hernias

### **IV. Temperature Regulation**

- Neonates cannot regulate body temperature independently
- Depend on:
  - Mother
  - Littermates
- Limited insulation due to lack of body fat

- Normal rectal temperatures:
- Week 1: 95–99°F
- Week 2: 97–100°F
- Neonates can only raise body temperature about 12°F above room temperature

### Hypothermia Risks

- Reduced feeding
- Hypoglycemia
- Death if untreated
- Neonates:
  - Cannot shiver
  - Lack peripheral vasoconstriction
  - These abilities develop during the first week of life

### V. Gastrointestinal Development & Stool Characteristics

- GI tract is sterile at birth
- Bacterial colonization occurs shortly after
- Meconium passed in first 48 hours:
  - Soft
  - Yellow/brown
  - Normal stool:

- Pasty
- Yellow or tan

#### Abnormal Stool Indicators

- Green or yellow watery stool → Overfeeding
- White stool → Possible lactose intolerance
- Foamy yellow stool → Possible canine herpesvirus
- Blood-tinged stool → Possible sepsis or coccidiosis

#### VI. Nutrition, Glucose, and Hydration

- Puppies can maintain blood glucose for ~24 hours without eating
- After 24 hours:
  - Severe glucose decline
  - Risk of hypoglycemia
  - Dehydration risk is high:
    - Neonates are <80% water
- Kidney development:
  - Kidneys immature for first 2 weeks
  - Unable to concentrate urine
  - Urinate 2–3× more often than adult dogs

## **VII. Cardiovascular & Respiratory Function**

- Blood pressure: lower than adults
- Heart rate:
- Normal ~200 beats per minute
- Respiratory rate:
- At birth: 10–18 breaths/minute
- After day 1: ~30 breaths/minute

## **VIII. Motor Development**

- Day 5–6:
- Able to support weight on front legs
- Day 14–16:
- Begin supporting weight on hind legs

## **IX. Behavior & Reflexes**

- Sleep approximately 90% of the day
- Sleep type: Activated sleep

- Helps strengthen muscles for standing
- Present reflexes:
- Righting reflex
- Withdrawal from stimuli
- Anal and urinary reflexes
- Suckling and rooting reflexes
- Seen as head bobbing or nudging

## X. Feeding & Nutrition

### Importance of Mother's Milk

- Provides:
- Immunity
- Protection against harmful bacteria
- Support for healthy gut bacteria
- Hormones and energy

### Colostrum

- First milk produced by mother
- Thick and sticky
- Provides ~95% of immunity in first 24 hours

- Milk transitions over first week to mature milk

### Feeding Frequency

- First week:
  - 8–10 nursing sessions/day
- After week one:
  - Frequency gradually decreases

## XI. Nursing Challenges & Management

- Possible issues:
  - Rejected puppies
  - Orphaned puppies
  - Weak or small puppies
- First step:
  - Rule out cleft palate
  - Small or weak puppies:
    - May struggle with thick colostrum
    - May require bottle feeding

### Maternal Issues

- Rejection

- Illness
- Insufficient milk production
- Best alternatives:
  - Foster mom with similarly aged puppies
  - Commercial or homemade puppy milk replacer

## **XII. Immunity Support**

- Puppies receive immunity if:
  - Mom is fully vaccinated
  - Colostrum consumed within first 16 hours
- If colostrum not received:
  - Sterile serum from a fully vaccinated dog may be injected

## **XIII. Feeding Management in Litters**

- Stronger puppies may displace weaker ones
- Signs of inadequate intake:
  - Restlessness
  - Excessive vocalization
  - Distended abdomen

- Strategies:
  - Allow smaller puppies to nurse first
  - Supplement milk if maternal supply is insufficient

#### **XIV. Milk Replacer Guidelines**

- Use puppy-specific milk replacers only
- Underfeeding is safer than overfeeding
- Overfeeding can cause diarrhea and dehydration
- Cow or goat milk:
  - Not recommended
  - Nutritionally inappropriate
- Always consult a veterinarian for:
  - Feeding amounts
  - Feeding schedule

#### **XV. Common Health Concerns**

- Increased risk in puppies with:
  - Nursing difficulties
  - Physical defects

- Potential issues:
- Hypothermia
- Dehydration
- Sepsis
- GI infections
- Puppies without colostrum or immune support are at higher risk for:
- Bacterial infections
- Viral diseases (especially if mom is unvaccinated)

### **Neonatal Puppy Checklist for Breeders (0–2 Weeks)**

#### **I. At Birth (First 24 Hours)**

- Immediate Puppy Assessment
  - Puppy breathing and responsive
  - No visible defects (cleft palate, limb deformities)
  - Hair present on feet (check for prematurity)
  - Record birth weight
  - Identify puppy (collar, mark, or record)

Umbilical Care

- Umbilical cord intact and clean
- Cord dries and shrivels
- No redness, swelling, or discharge

Temperature & Environment

- Whelping area warm and draft-free
- Puppy warm to the touch (not cool)
- Rectal temperature 95–99°F
- Puppy dried and placed with mom/littermates

Colostrum Intake

- Puppy nurses within 2–4 hours of birth
- Strong suckle reflex observed
- All puppies have access to nipples
- Note any puppies that struggle to latch

**II. Daily Checklist (Days 1–14)**

Weight & Growth

- Weigh each puppy daily (same time each day)
- Weight increasing steadily
- Flag puppies with weight loss or no gain

Feeding

- Nursing 8–10 times per day (week 1)
- Belly rounded but not distended
- No excessive crying after feeding
- Smaller puppies allowed to nurse first if needed
- Supplement only if medically indicated

Hydration

- Gums moist and pink
- Skin snaps back quickly when gently pinched
- Urination occurring multiple times daily

### **III. Temperature Monitoring**

Body Temperature

- Week 1: 95–99°F
- Week 2: 97–100°F
- Puppy never cold or lethargic

Hypothermia Watch

- Weak suckle
- Decreased movement
- Crying or silent and limp
- Warm gradually if cold (never feed a cold puppy)

#### IV. Stool & Elimination

Normal Elimination

- Meconium passed in first 48 hours
- Stool yellow/tan and pasty
- Dam stimulating urination/defecation or breeder assisting

Abnormal Stool Warning Signs

- Watery green/yellow (overfeeding)
- White stool (possible lactose intolerance)

- Foamy yellow stool (possible herpesvirus)
- Blood-tinged stool (possible sepsis/coccidia)

#### **V. Umbilicus & Abdomen (Daily Check)**

- Umbilical Site
  - Dry and detached by day 3
  - No swelling, heat, or discharge
- Abdomen
  - Soft, not bloated
  - No umbilical or inguinal hernias felt

#### **VI. Behavior & Activity**

- Normal Behavior
  - Sleeping ~90% of the time
  - Rooting and suckling reflex present

- Righting reflex present

  

- Developmental Milestones

- Day 5–6: supports on front legs
- Day 14–16: begins hind leg support

## VII. Cardiovascular & Respiratory

- Heart & Breathing

- Heart rate ~200 bpm
- Breathing smooth and regular
- Respiratory rate ~30 breaths/min after day 1
- No gasping or labored breathing

## VIII. Nursing Problems & Intervention

- Watch For

- Weak or fading puppies

- Constant crying
- Being pushed away from nipples
- Poor weight gain

#### Action Steps

- Check for cleft palate
- Ensure body temperature is normal
- Assist with nursing or bottle feed colostrum
- Consider foster dam if available
- Start puppy milk replacer if needed
- Contact veterinarian if no improvement within hours

## **IX. Immunity & Health Protection**

#### Immunity Confirmation

- Dam fully vaccinated
- Colostrum consumed within first 16 hours

#### If No Colostrum

- Discuss serum transfer with veterinarian

- Monitor closely for GI signs or lethargy

#### **X. Red Flags – Call the Vet Immediately**

- No nursing for 12–24 hours
- Weight loss over 24 hours
- Cold body temperature
- Persistent diarrhea
- Blood in stool
- Weak cry or limp body
- Swollen or infected umbilicus
- Labored breathing

#### **XI. Supplies to Keep Ready**

- Digital gram scale
- Rectal thermometer
- Heating source (safe, regulated)
- Puppy milk replacer
- Bottles and/or feeding tube (if trained)

- Clean towels
- Disinfectant for umbilical care
- Veterinarian contact info